



# NASA Weekly Update

Week of August 21-28, 2006

## 8-28: Tropical Storm Ernesto Forces Shuttle

**Atlantis' Launch Delay:** Tuesday's scheduled launch of Space Shuttle Atlantis on its STS-115 mission to the International Space Station is being postponed because of Tropical Storm Ernesto. A new launch date has not been set. Although no final decision has been made, shuttle managers meeting at NASA's Kennedy



*Reflected in the nearby pool of water at KSC, NASA's Space Shuttle Atlantis is ready for liftoff at Launch Pad 39B..*

Space Center instructed launch teams Monday to continue preliminary preparations to roll Atlantis off its launch pad and back inside the protection of the Vehicle Assembly Building. Managers will follow developments in Tropical Storm Ernesto's track. A decision on whether to roll back is expected by midday Tuesday.

## 8-25: NASA Invites Students to Help Astronaut

**Count the Stars:** NASA and the Canadian Space Agency (CSA) are collaborating on a new education activity that helps students become astronomers. The Star Count Project will investigate the visual quality of the night sky and help assess the extent of atmospheric light pollution. The project was suggested and is being supported by CSA astronaut Steve

MacLean. He is a member of the crew of the Space Shuttle Atlantis on the next mission, designated STS-115, to the International Space Station. To participate in the Star Count Project, students should visit:

<http://www.nasa.gov/audience/foreducators/starcount/home/index.html> or <http://www.space.gc.ca/asc/eng/educators/resources/stars/default.asp>.

## 8-24: NASA To Announce Contractor for Crew

**Exploration Vehicle:** NASA Exploration Systems' managers will host a press conference at 4 p.m. EDT Thursday, Aug. 31, to announce the prime contractor to design, develop, and build Orion, America's next human spacecraft. The press conference will air live on the Web and on NASA TV. For NASA TV scheduling information, visit: <http://www.nasa.gov/ntv>.

## 8-24: NASA Awards NOAA GOES-R Instrument

**Contract:** NASA, in coordination with the National Oceanic and Atmospheric Administration's Geostationary Operational Environmental Satellites (GOES-R) Program, has selected Assurance Technology Corporation for a \$101.7 million dollar contract. The contract is for the Space Environment In-Situ Suite (SEISS), which will provide data for monitoring space environments as an instrument on the next generation of GOES.

## 8-22: NASA Names New Crew Exploration Vehicle

**Orion:** NASA announced Tuesday that its new crew exploration vehicle will be named Orion. Orion is named for one of the brightest, most familiar and easily identifiable constellations. Orion will succeed the space shuttle. Its first flight with astronauts onboard is planned for no later than 2014 to the International Space Station. Its first flight to the moon is planned for no later than 2020.

**8-21: NASA Finds Direct Proof of Dark Matter:** Dark matter and normal matter have been wrenched apart by the tremendous collision of two large clusters of galaxies. The discovery, using

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NASA's Chandra X-ray Observatory and other telescopes, gives direct evidence for the existence of dark matter. For additional information and images, visit: <http://chandra.nasa.gov>.

## Weekly Status Reports



With the countdown clock ticking toward the launch of Space Shuttle Atlantis on the STS-115 mission, the International Space Station crew continues to prepare for visitors.

Commander Pavel Vinogradov, Flight Engineer, NASA Science Officer Jeff Williams and European Space Agency astronaut Thomas Reiter of Germany are ready for Atlantis to deliver a new section of the station's girder-like truss. Atlantis is set for launch on Sunday, which would result in docking with the station on Tuesday. During Atlantis' mission, astronauts will attach the new P3/P4 truss, a segment that includes a huge new set of solar arrays and a giant rotary joint to allow them to track the sun.

To prepare for Atlantis' visit, the station crew members packed items that will be returned to Earth on the shuttle. They also reviewed spacewalk plans, talked with the shuttle crew in a long-distance conference and trained to photograph the shuttle's heat shield as Atlantis does a backflip while approaching the station.

Flight controllers tested the operation of a U.S. air scrubbing system in advance. The Carbon Dioxide Removal Assembly, or CDRA, was turned on for an extended period to test its capability to remove carbon dioxide from the air. The CDRA augments the Russian air scrubber, Vozdukh, which was turned off during the test. Engineers are continuing to evaluate data from the CDRA operations.

The station was raised 2.5 miles by firing the ISS Progress 21 engines Wednesday. The boost places the complex at the optimum position for Atlantis' rendezvous and docking. It also puts the station at the optimum altitude for the launch of the next station resident crew, Expedition 14, from Kazakhstan in September.

Williams replaced filters in part of the station's cooling system. The used filters will be returned to Earth for engineering analysis to confirm their success at removing fine particles from water in coolant lines.

Williams completed runs of the Dust and Aerosol Measurement Feasibility Test, or DAFT experiment. DAFT is testing the effectiveness of a commercial hand-held air quality monitor called P-Trak that counts ultra-fine dust particles in microgravity. The study provides data that may help in the design of fire detection systems on future spacecraft. Its data also may prove useful for fire detection hardware in extreme environments on Earth, such as submarines or underwater laboratories.

The station crew continued with the set-up and check-out of the European Modular Cultivation System (EMCS) that was delivered on STS-121. This experiment system contains a centrifuge that can subject a wide range of small plant and animal experiments to partial gravity conditions.

The first experiment that will be performed in EMCS is the Analysis of a Novel Sensory Mechanism in Root Phototropism, called Tropi, which seeks to identify the genes responsible for successful plant growth in microgravity. The experiment studies mustard seeds.

Vinogradov and Reiter participated in European Space Agency science experiments that test the cardiovascular system's response to microgravity for long durations.



## Upcoming Events

- **TBD:** Space Shuttle Atlantis STS-115 mission
- **Aug. 3, 1-4 p.m.:** press conference announcing the prime contractor to design, develop, and build Orion, America's next human spacecraft.
- **Sept. 6:** Breakfast with NASA And the crew of STS-121 – See page 3 for details (limited seating, RSVP to Josh Buck, [jbuck@nasa.gov](mailto:jbuck@nasa.gov))
- **Sept 13, 6:30 p.m.:** ICE ON EARTH: New Windows on our Frozen World at the National Air and Space Museum
- **Sept. 14:** Launch of Expedition XIV crew on Soyuz TMA-9
- **NET Sept. 18:** STEREO launch

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Due to limited seating capacity please RSVP to:  
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